THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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CANINE TETANUS.

A contributor, not having seen records of tetanus in the dog, raises the question of its incidence in this animal. All authorities agree that canine tetanus is rare. Some say very rare; and these include Friedberger and Fröhner, who failed to discover a single case of general tetanus among 70,000 diseased dogs. Naturally, therefore, few cases have appeared in the journals; and possibly not a few clinicians, not having seen canine tetanus or read reports of it, are inclined to doubt its occurrence. There is sufficient testimony that it does occur—one English case was reported and figured by Prof. Wooldridge in *The Veterinary Journal* of January, 1908, and the condition is also illustrated as well as described in Müller and Glass' book on canine diseases, and in Hutyra and Marek's work.

So far as can be gathered from the literature, it appears that canine tetanus is more frequently localised than generalised. In Wooldridge's case, the chief tetanic spasms produced combined opisthotonos and pleurosthotonos, while trismus was absent. The symptoms vary; but generally, whether the disease is localised or generalised, they are much as in other animals. One symptom seen in severe cases is a characteristic facial distortion produced by wrinkling of the skin of the forehead. Chloral and morphine are advised as sedatives by Cadiot and Breton, and also by Müller and Glass; and it seems possible that the latter drug might be more useful in tetanus affecting the dog than in that of other animals. Text-books say nothing definite as to the mortality, and probably the existing data are insufficient to justify a comparison with that of other animals; but recoveries certainly occur, and Merillat asserts that they are frequent.

Friedberger and Fröhner remark vaguely that "partial tetanus in the form of trismus seems to occur sometimes in puppies." Hutyra and Marek say that tetanus "manifests itself especially in young dogs by transitory trismus." Müller and Glass, on the other hand, assert that "the temporary trismus seen in young animals that have eaten decayed meat should be classed under ptomaine poisoning and not under tetanus." The authors previously cited say nothing of decayed food; but further information is desirable regarding these cases of "partial tetanus" and "transitory trismus," and the question of whether they are really due to Nicolaier's bacillus. Our literature upon canine tetanus is insufficient, as veterinary literature is generally concerning rare conditions; and any clinician who has experience of tetanus or tetaniform phenomena in the dog may render some service to the profession.

RABBITS AND BOVINE TUBERCULOSIS.

In *The Veterinary Record* of the 21st inst. appears an excerpt from the *North British Agriculturist* on this subject. We are informed therein that Cumberland agriculturists hold that rabbits spread tuberculosis among cattle. Their finding is that where rabbits are numerous they burrow and live close together, deplete the food supply in winter, develop tuberculosis and eject infected matter on the grass which is swallowed by the cattle who, if they happen to be in low condition or have hereditary tendency towards the disease, develop it in their turn.

This conclusion is founded on fallacy. The rabbit very rarely contracts tuberculosis even in confinement. Sir John M'Fadyean—than whom we recognise no greater authority on the subject of tuberculosis, declares that the disease has never been observed to occur among wild animals in a state of nature.

The disease the Cumberland War Agricultural Committee have in view is, to my thinking, *Psorospermosis or Coccidiosis*. This disease is caused by minute animal parasites—*Gregarines*—a species of the simplest invertebrata, possessing neither body-cavity nor nervous system (Protozoa). These parasites are found also in the digestive canal of beetles, earthworms, etc. The particular gregarine credited with this fatal rabbit-disease is *Coccidium oviforme*.

"Coccidiosis" is very fatal and very common indeed among wild rabbits, especially after a warm and wet spring. In fact, seasons favourable to the ravages of the liver-fluke among sheep may be said to be accessory to liver-gregarinosis in the rabbit.

I have seen probably some thousands of cases in young rabbits in Devonshire—where we are wont to speak of them as "corded" rabbits. One can pick them up weak and staggering in their seats, and they fall easy prey to dogs when in an advanced stage of the disease: further, they are often picked up dead.

The affected animals present an attenuated, pinched appearance about the loins, and a varying amount of dropsy of the abdomen, while the visible mucous membranes may show slight yellow discoloration.

I do not recall ever seeing a *fatal* case in an old rabbit, though the disease is common enough among them, and may be suspected by the emaciation across the loins, and ascites.

The malady prevails principally on flat, marshy land, moors, and badly drained pasturage—not on poor, hilly ground.

On paunching a rabbit found dead or killed while suffering from the disease, a very obvious condition of the liver is found. The organ is enlarged and its parenchyma is beset with whitish-yellow areas varying in size from that of a pin's head to that of a pea. These, I submit, are what the Cumberland agriculturists have quite excusably mistaken for tubercles. They are little dilatations on the course of the bile-ducts. If we prick one of these nodules a milky fluid escapes, which, examined microscopically, reveals epithelial and other *débris*, and numbers of egg-shaped bodies with double contour —coccidia—the causal parasites. The low-power lens suffices for their detection. They are credited with multiplying, under favourable conditions of warmth and moisture, wherever they lodge, but especially in the liver by formation of spores, and also outside the body in the open where healthy young rabbits ingest them with the herbage.

Probably the holder of a profitable rabbit-warren might best combat the scourge by dressing his land in the early spring with 8 to 10 cwt crushed rock-salt per acre.

The Cumberland Agricultural War Committee are not concerned with the welfare of the troublesome rabbit, but rather with the shortening of his days. There is no gainsaying the fact that when in numbers they become a plague to the farmers.

My object in penning this article is to maintain that the rabbit should not be credited with disseminating tuberculosis among the live-stock of the farm.

F. W. Chamberlain, M.R.C.V.S.

Wimbledon, Surrey.

Erratum.

In Mr. Gray's note on excision of the eyeball, p. 25, seven lines from end of second paragraph: after "Beyond painting" add, *with tincture of iodine.*

CLINICAL NOTES, WITH PHOTOGRAPHS.

Encephalitis.

A parturition case in a cow. Nothing in the passage, and only the dropsical swelling to be felt in the uterus. This was punctured with an ordinary long cattle trocar, and measured fluid withdrawn to the amount of 2½ gallons. The calf's head was then found to be turned downwards with both fore-legs turned backwards. Delivery was effected and the cow did well. The calf was without brain, or roof to the cranium. The dropsical sac was blown up with a bicycle pump for photographic purposes, but the air quickly escaped. The point of puncture can be seen in photograph.

Scrotal Hernia in a Calf.

This was one of a lot of calves which the owner said were castrated with the use of the knife only. Two of these calves developed scrotal hernia. The hernia in each calf being about the same size. The hernia was reduced in each case, and clams applied and left to slough. One calf died before the clams came off, and the other a week after the clams came off.

Fractured Cervical Vertebrae.

An aged pony, which was found cast in the morning with the off hind leg in the halter rope.

Diagnosis. Dislocation of the cervical vertebrae.

The photograph shows the position of neck and head, which could not be raised by the animal itself or by manipulation, neither could the neck be bent.

The other photograph shows the swelling on the off side of the neck where the trouble was. This pony was chloroformed (a sudden death being expected on reduction of the dislocation) and under the anæsthetic the neck could be straightened and bent, and the head brought into a normal position without difficulty, but as soon as the effects of the anæsthetic had passed the condition recurred. This was tried twice with the same result. The pony fed well, and might apparently have lived, but owing to his age and there being no likelihood of his being of further use was destroyed.

P.M. Fracture of the wings of the 4th and 5th cervical vertebrae.

Has any member of the profession seen a case of Tetanus in the Dog? I am unable to find any record.

H. E. T. Mason.

Bishops Stortford.

MODERN (?) TREATMENT OF INFECTED WOUNDS.

By Henry Gray, M.R.C.V.S., Kensington, W.

Although very few veterinary authors, who must have had great opportunities in the way of observing and treating wounds of warfare, have recorded their experience for the benefit of their brethren or of veterinary science, many medical men have written upon the subject so far as men are concerned.

The general conclusions the latter have drawn and the methods they advocate are those long drawn and, for a century at least, advocated by veterinary surgeons; so one must conclude from the evidence so far submitted that military surgeons *are practising the methods adopted so long in veterinary surgery for the treatment of dirty or contaminated wounds*—non-suturing, exposure to the atmosphere, removal of dead or damaged tissues, and antisepsis with solution of chloride of lime, chlorinated soda (Labarraque's solution), oil of turpentine, etc.

Our forefathers termed gangrenous or putrid wounds phagadenic wounds, which we now attribute to the action of the bacillus of malignant œdema, bacillus perfringens, etc., and it is doubtful whether modern surgeons get any better results than they did.

So far as my knowledge and experience go the principles advocated were, and have been, traditional and known to most of the former teachers and their followers with whom I have been fortunate enough to come in contact during my professional career. Such men were good observers, had independent characters and cared not a tinker's damn what the general public thought of them or the fashion set by a class of medical authorities, whose thought was mostly of a peripatetic description. Of recent years practitioners seem to have weaker characters, following every fashion and aping the methods of those whose means are different with the object of pleasing the whims of the public who they should have enlightened with ideas of originality and thus brought credit to their science and practice. To not bandage or suture a soiled wound was sacrilege in the eyes of a certain section of the public and to those cringing practitioners who supported the public in their mistaken notions, even to the detriment of those practitioners who did not follow mere fashion because it was a fashion—likely to be cast aside as soon as another fashion came into vogue. Truth is truth and will always remain so in spite of those who may endeavour to prove it a heresy. Modern research and experience gradually confirms many of the older observations, experiences and conclusions, but when all is said and done it is not modern because it is true.

Chloride of lime, hypochlorite of soda (formerly termed Labarraque's solution), oil of turpentine, and other resinous extracts, iodine, Friar's balsam, common salt, sulphates of copper and zinc, chloride of zinc, perchloride of mercury and other agents were long ago used by our forefathers in the treatment of dirty, foul or gangrenous wounds before anything was known of bacteriology, antisepsis or asepsis. Our predecessors tried first one thing and then another and watched their effects. They experimented in practice as the scientist experiments in the laboratory. Weren't they just as much scientists as the latter is termed? The aim of all knowledge is to use it economically and effectively; that is, to get the best results with the least expenditure of energy.

Jenner, who *did not* discover vaccination, as is generally asserted, established his conclusions from observation. Lancisi's advocacy of the stamping-out method in 1713 has long since been established by the practice and observation of others. Does the modern scientist do any more? He may have finer means of investigation, but does he get any better results?

Let me repeat, no advance is going to be made in our science or practice by merely copying others whose means and conditions are different to ours. There is plenty of scope in our own field for our powers of observation, reasoning and recording. In fact, there are many untrodden fields existing in it awaiting our development of them.

Judging from our periodicals one is led to believe that there is nothing more to discover in nor anything further to be said about veterinary science.

Royal College of Veterinary Surgeons.

SPECIAL MEETING OF COUNCIL.

A Special Meeting of Council was held at the College, 10 Red Lion Square, W.C., on Thursday, July 19th. There were present: Mr. Barrett, Dr. J. McI. McCall, Sir John M'Fadyean, Mr. Mulvey, Mr. Price, Maj.-Gen. Sir R. Pringle, Prof. Shave, Mr. Slocock, Sir Stewart Stockman.

The SECRETARY announced that letters of apology had been received from The President, Maj. Abson, Dr. Bradley, Messrs. J. H. Carter, J. C. Coleman, J. Dunstan, P. J. Howard, and Prof. Mettam.

In the absence of the President, it was resolved that Dr. McCall, Vice-President, be elected to the Chair.

The minutes of the previous special meeting were read and confirmed.

New Bye-Law. On the motion of Mr. Mulvey it was resolved that the following addition to Bye-laws, having been passed at a Special Meeting of Council held on July 6th, be confirmed, and that the Seal of the College be attached thereto:—

"It shall be delegated to the Examination Committee to prepare and issue from time to time a list of Examining Bodies whose examinations in General Education fulfil the conditions of, and are specially recognised by, the Council."

Mr. MULVEY gave notice that at the next Meeting of Council he would move the following alteration to Bye-law 61:—

"To omit all the words after 'passed' in line 6, and to insert in lieu thereof the following words: 'a recognised examination in General Education.'"

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:—

J. G. E. Gallie, Lieut. A.V.C.	£1	1	0
E. W. Larnder, Lt.-Col. A.V.C.	1	1	0
W. T. Olver, Capt. A.V.C.	1	1	0
T. Parker, Newcastle-on-Tyne	1	1	0
H. E. Richardson, Hedon, nr. Hull	1	1	0
W. N. Rowston, Major A.V.C.	1	1	0
A. Spreull, jun., D.S.O., Major A.V.C.	1	1	0
J. Spreull, Cape Colony, S.A.	1	1	0
O. Stinson, Marden	1	1	0
F. H. Sugden, Grantham	1	1	0
Previously acknowledged	801	16	0
	£812	6	0

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
		Outbreaks (a)	Animals.	Outbreaks (a)	Animals.	Outbreaks (b)	Animals.	Outbreaks (b)	Animals.	(b)	Outbreaks (a)	Slaughtered. *
GT. BRITAIN. Week ended July 21		5	5					31	58	2	35	12
Corresponding week in	1916 ...	6	7			1	1	29	47		87	69
	1915 ...	7	13			1	10	23	71	1	82	414
	1914 ...	13	22			5	8	25	33	2	93	796
Total for 29 weeks, 1917		308	353			16	27	1695	3357	390	1543	659
Corresponding period in	1916 ...	338	399	1	24	32	84	1565	3595	178	2895	8330
	1915 ...	381	436			30	57	502	1105	158	2617	11902
	1914 ...	474	513	11	74	64	164	1452	2549	149	2435	25440

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—
Board of Agriculture and Fisheries, July 24, 1917. Excluding outbreaks in army horses.

IRELAND. Week ended July 14	...	...	...	...	...	...	Outbreaks ...	1	6	24
Corresponding Week in 1916 ...	1	1	...	...	...	...	1	3	6	31
1915 ...	...	...	...	...	...	...	4	2	2	11
1914 ...	...	...	...	...	...	...	3	7	9	18
Total for 28 weeks, 1917 ...	3	5	...	...	1	1	29	235	150	959
Corresponding period in 1916 ...	3	7	...	...	...	...	38	232	175	1006
1915 ...	1	1	...	...	1	3	40	260	146	847
1914 ...	1	1	75	955	...	...	52	359	126	671

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 16, 1917
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

[National V.M.A.—Irish Branch.]

A General Meeting was held on Wednesday, 30th May, in the Gresham Hotel, Dublin.

There were present: Mr. J. H. Norris, President, in the Chair; Messrs. O. D. Neary, J. McCann, J. Holland, J. B. Dunlop, D. S. Prentice, C. M. Griffin, W. W. Malone; Capt. B. H. Mellon, Capt. P. D. Reavy; Messrs. W. P. Cushnahan, P. J. Howard, L. M. Magee, F. J. Daly; Profs. J. F. Craig and J. J. O'Connor. Visitors: Messrs. W. Power and W. Ridley.

The minutes of the last meeting having been read and signed, the President announced that apologies had been received from Profs. Mettam and Brown; Messrs. Wilkinson, Healy, and Nolans, of Birr. My colleague, Mr. O'Brien, is no doubt absent owing to the death of his father, whose funeral took place to-day; and I am sure we all regret the cause of Mr. O'Brien's absence, and we extend to him the greatest sympathy in his bereavement.

Report of Council.

A meeting of the Council of the V.M.A.I. was held in the Gresham Hotel, Dublin, on 3rd May. Minutes of the previous meeting of Council were read and signed.

A letter was read from Mr. J. Ewing Johnston enclosing a circular relative to strengthening the membership of the Irish Veterinary Associations. This was considered and a course of action decided upon.

It was proposed by Mr. Howard, seconded by Mr. Prentice, and passed: That at the annual meeting for the election of Officers, members be also nominated for service in the Irish Branch of the National Veterinary Association.

It was decided that the next General Meeting be held in the Gresham Hotel, on Wednesday evening, May 30, at 7.30 p.m. Subject for discussion to be a paper on Sheep Scab, by Mr. W. P. Cushnahan, the paper to be printed and circulated with the notices convening the meeting. Reporter to be employed at the usual fee.

The report was adopted.

The next item is the election of a candidate, Lieut. L. J. Kelly, A.V.C., who is proposed by Prof. Craig and seconded by Prof. O'Connor. Lately we have not gone through the formality of putting beans into the ballot box, and it succeeded very well, and I expect that on this occasion Lieut. Kelly will be elected unanimously. (Applause). The next item is the most important: it is a discussion upon a paper by Mr. W. P. Cushnahan on Sheep Scab, and I have great pleasure in declaring the paper open for discussion.

I remember some years ago Mr. A. Balfour in introducing an Amendment Act to the Diseases of Animals Act, dealing with sheep scab, said he thought that the subject was not one which would involve any oratorical display. That may be very true, but at the same time sheep scab is a subject of great economic importance, and also of great interest to veterinary surgeons, and I have no doubt that we will have a very good discussion. If every member gives his experience frankly we will all have our knowledge of the disease added to. I think I may congratulate Mr. Cushnahan on the style of his paper. It is absolutely free from anything in the way of being copied from text-books. It relates his own experience, and is consequently of far more value than if he sat down and looked up reference books, and gave us a learned dissertation on it.

OBSERVATIONS ON SHEEP SCAB.

By W. P. Cushnahan, M.R.C.V.S.

Mr. President and Gentlemen,—In selecting a subject for this meeting, I decided on one with which we are all too familiar. It is said that familiarity breeds contempt, and I have often thought that because we are so used to meeting with it, the profession has not given the study of sheep scab the serious attention it deserves.

It is common in the United Kingdom, and has a wide distribution in most countries throughout the world.

Parasitic diseases among animals were noticed in the very early ages, and we are told that in the time of Moses special mention was made of them. Sheep scab possibly may have been "scheduled" under the Mosaic law. In the later centuries writers have pointed out the parasitic nature of certain skin diseases. In the last century sheep scab was investigated seriously with regard to the causal parasite.

On account of its ravages among flocks it is scheduled under the Diseases of Animals Acts; it is dealt with by the Authorities, both Central and Local, with a view to its eradication. The public Press has devoted leading articles to it, urging on farmers and graziers the necessity of co-operating with the Authorities in preventing its dissemination, and, if possible, in having it stamped out altogether. It causes, both from an economic and commercial standpoint, a considerable loss to the country. In the affected animals there is the loss of wool, loss of condition, and quite a number die. It is a menace to the sheep export trade of this country.

These reasons might be regarded as sufficient for introducing it as a subject for discussion, but there are others. We are all aware that the diagnosis of the disease has been often criticised by the public. We are also aware that veterinarians are sometimes at variance on this point. It is on account of this difference of opinion which sometimes exists that I have been prompted to bring the subject before you. Therefore, in dealing with it, I shall endeavour to give as much attention as is consistent with a brief paper to those points which interest us—symptoms and diagnosis. A paper, however, would be incomplete if the parasitology, dissemination and eradication of the disease were not considered also.

I shall confine my remarks in this paper to psoroptic scabies.

Sheep scab may be defined as a lesion on the skin of sheep due to irritation caused by psoroptic acari.

Symptoms. The irritation caused by these acari produces at the outset very minute papules, accompanied by exudation of serum. As the parasites multiply, they spread on the surface of the skin, and in obtaining nourishment from the blood and lymph, set up an irritation the result of which, at the very onset, is really an exudation, but simultaneously exciting a proliferation and desquamation of the epithelial cells of the part. This gives rise later to what is called "scabs" or "crusts."

Now this red papule described at the outset, we do not readily see in actual practice unless particularly looked for, for after a very short time it will have a grey appearance on top. We find this little nodule then at the bottom of a single tuft of wool, and on handling it is quite noticeable to the touch. The parasite pursues its activities at the edge of the lesion, which spreads either circularly or longitudinally until we have it from the size of a pinhead to a threepenny piece. If longitudinally, we have it as a thin grey streak. The circular patch is more common. This lesion may go on spreading in the way described, or may coalesce with others to form a larger patch. Even in the very early stage it will

be recognised as sheep scab, for there is something about this lesion which transmits a peculiar sensation to the touch, and which is not felt in other skin lesions in sheep. This peculiarity cannot be very well described, but I rely a good deal on it. If the lesion is handled, or gently rubbed, the animal evinces pleasure by smacking the lips or attempting to bite, or moves the head usually in the direction of the lesion, but in some cases in any direction. The lesion continues to grow, and may now be the size of a five-shilling piece. It stands up on a higher level than the surrounding healthy skin, and is delimited from it. It is now a small crust, has a silvery grey appearance, and may be readily recognised as scab.

The parasite has a predilection for the parts of the body covered by long wool, although I have found psoroptic scab on the legs, but this was in a very old-standing case. The sternum, which is not altogether covered by long wool, is a favourite site ; so also is the scrotum, which is not in all cases covered with wool. It is generally found on the withers, across the loins, buttocks, sides and tail (tails of lambs especially when we can find no lesion elsewhere, although in ram lambs a lesion may be, and often is, in existence at the same time on the scrotum). Sometimes we find it over the scapular region, where it may be a continuation of a wither lesion or independent of it. I have also noticed small lesions running on a line from the region of the humerus towards the jugular furrow, and on the neck. It is, therefore, obvious that where we suspect scab it is necessary to examine all these parts.

My own experience is that unless we actually handle the affected part, the animal may not show any sign of itching—in fact, in many cases it does not. Pruritis is not a constant symptom ; for instance, on a cold, wet day, the animal will not respond at all perhaps : or when the sheep has been treated for the disease, yet the lesion may still be in existence and living acari may be present.

The description of the disease up to this only applies to small lesions, that is, where it so far has not become generalised. Take a case where a sheep amongst a flock in a pen has, say, a lesion of the size of half-crown ; if the day be hot, we find this animal trying to rub at the nearest post, may even attempt to bite the part. But this is not always seen, for we may keep a pen of sheep under observation for two or three hours, and we do not see anything to suggest that scab exists among them. When, however, these sheep are afterwards examined, we will find one, perhaps more than one, with a very small lesion on some part of the body. It will only be necessary to touch the affected part, when it will show all the signs of pruritis. Of course, observation, if the day be hot, is a good guide as to whether scab exists or not, but if we do not see anything to attract our attention, we should not be satisfied that scab does not exist without subjecting the animals to a manual examination. I might here mention that if sheep are huddled together for some time in a hot, confined space, on being released and put in pens, if a recent lesion of scab be in existence, the affected animal will go at once to the nearest post and begin rubbing. This can be seen where sheep have been on board ship for a considerable time, confined in a small space, and in a hot part of the vessel, perhaps not too far away from the engine room.

As the disease becomes more advanced, we can see signs on a cursory glance that will arouse our suspicions of its existence. It will be observed that tufts of wool are becoming detached, the animals may be seen rubbing, and they may present a tattered-looking appearance. On examination fairly large crusts may be found on different parts of the body ; these still have a greyish appearance ; the superficial part of the crusts is powdery in consistence, although some of the lesions may appear purulent.

In very advanced cases there is no trouble in seeing the existence of the disease in a flock, say, in a field. There is a good deal of shedding of the wool ; in some cases the animals may be almost or entirely denuded of wool, or the wool may be hanging in tufts. Crusts may be seen fairly generally, or perhaps generalised over the body, and may have a wrinkled or cracked appearance. We may handle the animal anywhere, although the part we touch is apparently free from disease, and it shows signs of pruritis at once, and if we examine carefully we will find a lesion. In cases of this kind wool taken almost from any part of the body will reveal acari. In an extremely marked case we will find a crust over the whole surface of the body, even in parts where the wool still remains. Again we may have parts purulent. The colour of the lesion in some advanced cases may now be a dirty brown. On examination it may have the same powdery appearance as in the less advanced cases. In some cases I have seen the crusts actually caseous.

I may here mention a case very advanced and of old standing where two sheep had strayed on a mountain, had been lost for some months, and missed the usual dipping. When found the entire body of each was affected with scab, even the legs, which were red and excoriated from rubbing. It would seem as if symbiotic scabies co-existed with the Psoroptic. Microscopic examination of scrapings from the legs failed, however, to reveal symbiotic acari.

From the foregoing one would be inclined to think that the disease can be readily recognised. It, however, like other diseases, shows certain vagaries, and in forming an opinion, we must consider other matters in arriving at a diagnosis.

Diagnosis. There are conditions where we cannot positively conclude clinically that we are dealing with scab. In this event we must have recourse to the microscope. If the wool or scrapings be selected from the proper place, and if the case be one of scab, we should have no difficulty in finding acari. If, however, the clinician does not exercise care in selecting a specimen for examination, there may be a good deal of difficulty in finding parasites. I remember on an occasion wool being sent for examination ; it was evidently taken from a part which had been repeatedly dressed ; the skin on account of dressings was converted into a horny mass. This horny mass, with wool adherent, was sent to the laboratory ; slides were prepared for examination, but with negative results. Later from the same flock a specimen was sent which had been carefully selected and acari were readily discovered. In some cases I have seen wool sent which from its appearance looked as if it had been taken from healthy sheep—the results were negative here too. I mention this in order to impress the necessity of exercising care in selecting a specimen for microscopic examination.

Some assert that in the very old lesion acari cannot be found. With this I do not agree. The wool or scrapings should, however, be taken preferably from the most recent lesion. You may imagine from these remarks that I am optimistic with regard to recovering acari. This is not so. It is really a very troublesome matter, and sometimes we have the greatest difficulty in discovering the parasites. I once heard a well-known microscopist (whom most of you know) state that he would sooner see the devil enter his laboratory than a sheep scab specimen which had been carelessly selected.

There are cases, however, where the clinical appearance of the lesion is such that no doubt exists in the mind of the veterinarian that he is dealing with a case of sheep scab, yet from some cause or other the microscopic results are negative. One would ask how we are to decide? I should certainly decide on the clinical appearance. Again, we have cases where the clinical evidence may only arouse a certain suspicion. Very probably, too, the animal may be dressed or dipped, and the evidence is not sufficient to conclude we are

dealing with scab, but a specimen has been taken and examined microscopically with positive results. Then in this case the microscope having confirmed our suspicion, we have no option but to declare it a case of scab. This is the class of case where the microscope is of the greatest assistance.

There are cases often in which there is a conflict of opinion between veterinary surgeons. One perhaps decides clinically that a case is not one of scab; while another, though not at the time entirely disagreeing, reserves his opinion until later when he has had an opportunity of being helped out by the microscope. If acari are found, he (the latter) at once declares it to be a case of sheep scab. His colleague, who at the outset depended entirely on the clinical symptoms, will not be inclined to alter his opinion if he places a high value on it.

There are again, cases where the clinical evidence is not sufficient, and the microscopic examination negative. What are we to do here? There are only two courses open. Either declare it not sheep scab, or isolate the animal and adopt the policy of "wait and see." If there be any doubt that it might just be a case, by all means adopt the latter course and keep the in-contact animals under observation. The kind of cases just now mentioned refer to individual animals. If it were a case of a flock on pasture our doubts should be more easily allayed. There will be other animals in the flock which should arouse our suspicions also. The circumstances will guide us.

In cases where treatment has been adopted, it is with difficulty we can arrive clinically at a diagnosis. I cannot do better than describe some cases which have come under my notice where they had been treated.

In one case I at once saw that some dressing had been used, but done in such a careful way that no trace of it was intended to be seen. Perhaps it had been washed off again. The disease had been arrested, partly "killed," and pruritis was absent. However, on manipulation I noticed the animal moved the head very slightly in the direction of the hand. There was no rubbing, smacking or biting, but I had seen enough to make a very thorough examination. The wool of the part was slightly discoloured, the skin looked darker than the surrounding skin which the dressing had not reached. I examined carefully, and found one or two dark patches, darkened on account of the dressing. (In another similar case it had a yellowish appearance.) My suspicions were aroused, and although the clinical evidence was practically *nil*, acari were found on microscopic examination. The lesions which were hardly perceptible, might have passed unnoticed. I was careful in selecting specimens from the lesions such as they were. The lesions were recent, were adherent to the skin, the wool was not easily removed, and it was with difficulty a scraping was obtained. Some writers state that in sheep scab the wool is easily detached. This may be so in an advanced and crumbling lesion, but the cases I have mentioned show this is not so where a dressing has been applied.

There are instances of dressing having been applied to the skin, notably in the case of maggots. If done recently, we can see the skin and the wool discoloured, but there is absence of a lesion. Later, this part would, if the dressing be strong, show a scurfy appearance on the skin and wool. This should not be confounded with Scab.

There are cases where a strong maggot dressing has been applied, and as a result we get a chemical dermatitis. In fact, the superficial layers of skin become necrotic, and slough. At the edges of the slough, and immediately before sloughing takes place, the animal will show, if the parts are touched, pleasure on manipulation just as in sheep scab. However, there is no difficulty in differentiating.

After the summer dipping, if certain dips are used, e.g., arsenical, we find on lambs scabs all over the skin. These appear as if the skin were charred, but the condition is easily distinguished from true scab. Besides, on handling, the animal evinces pain more than pleasure. We see that there are many scurfy conditions due to dressings, and which sometimes trouble us as to whether the animal has been treated for sheep scab. In all these cases, if in doubt, the microscope should be resorted to.

There are other conditions on the skin which we are liable to confuse with scab. For instance, seborrhœa is often met with. It is seen and assumes a putty-like appearance for some distance through the length of the wool. It generally undergoes softening, the wool is easily detached, and there is no pruritis.

Zuill describes what he terms "Rain-Rott"—"an ecezematous disease produced by prolonged dampness of fleece and skin, and is observed on a large number of animals of one flock, disappears when the weather beoomes favourable, and pruritis is absent.

I have seen cases where the wool at the base is covered with a gritty substance, and occurs in the tail often in mountain sheep. It does not suggest sheep scab, but in one case acari were recovered.

There are certain skin secretions which may form concretions on the wool, usually yellow in appearance, e.g., "Yolk." The skin is clean and should not give us any trouble in diagnosis. Some breeds of sheep, viz., those with thick, close wool—Southdowns—very often show intense pruritus. Examination reveals nothing. The condition is apparently due to certain secretions being pent up, evaporation is not free. These substances may perhaps become acrid or rancid, and cause the irritation mentioned. When carefully examined no scab lesion will be found. However, when we find cases of pruritus, we become suspicious. This leads me to speak of other cases. Even in the open-woolled variety of sheep we find pruritus with an entire absence of any kind of lesion. The skin is perfectly clean, and there is no trace of scab. These cases have been termed "Nibblers," and will be met with from time to time, but the condition should not be confused with the well-known and serious disease called Scrapie met with in North Britain. Extremes of temperature sometimes cause an erythema which may also be associated with hyperaesthesia.

In certain constitutional diseases in sheep, e.g., Fluke, Anæmia, etc., loss of wool and desquamation of epithelium is a symptom, but the cause will easily be seen. In spring, ewes often lose their wool.

There are other parasites which infest the skin of sheep. In maggot cases, if a nest of maggots be touched, the animal smacks with a vigour not noticed in sheep scab, and rarely attempts to bite. We should take particular pains to look for the maggots, as they may only be commencing, and if a scurfy lesion were near the spot, we might hastily conclude it to be scab. However, the character of the smacking and discovery of the maggots will settle this. Lice (T. Sphoerocephalus) are often a source of trouble on the skin of sheep. They set up a severe itching, and must be differentiated from scab. Ticks also cause a good deal of annoyance. The animal will be seen rubbing, and on handling may evince pleasure, but the tick will be easily discovered.

In my earlier remarks I mentioned that the public are not always satisfied with our diagnosis. Apparently they do not use the term "scab" except where the disease is well advanced, and where it is a patent case. I remember drawing an owner's attention to a typical scab lesion about the size of a shilling. He wouldn't have it, though. He said—"That isn't scab; it is only a bit of mange." Of course many of them disagree with us just because it suits them, more especially if they have a number of sheep for shipment. They always assert in the case of dressing having been applied, that

the animal or animals had been dressed for maggots, while perhaps they are aware of the truth.

During the summer season, if maggots are prevalent, and later in the year, on account of maggot dressings, the fleece and skin become scurfy. Now this gives a considerable amount of trouble to Inspectors, say, at ports of shipment. They have to exercise more than ordinary care, and satisfy themselves that the sheep were really treated for maggots. An Inspector at a port has to think and act quickly when dealing with a case where there is any suspicion. Perhaps it is late, and the boat is ready to sail. Without awaiting the result of microscopic examination, he must decide at once. Of course if his suspicions are well founded he could hold over the flock until he had assistance, say, of the microscope. Therefore, you will see that Portal Inspectors are somewhat handicapped. They cannot adopt the "wait and see" policy; they must arrive at a decision promptly.

In the autumn of last year I had reason to suspect a case of sheep scab in two lambs which arrived with twenty-five others for shipment. I could not find any lesions on any part of the body; neither could I find anything on the tails, although in the case of one I fancied I saw on the tail a barely perceptible lesion which was hidden by dirt (the sheep had just been taken out of a waggon and had come a long journey). In the other no lesion could be found on the tail, although I was very suspicious regarding it. I held over the entire lot, and in about thirty-six hours from the first examination I again examined them and found well defined lesions running as grey streaks in the long direction of the tail in the case of both lambs. Acari were recovered from the lesions.

Some writers say that it requires five or six days for a lesion to develop. It is interesting to note that these lesions developed in a shorter time.

Although I depend so much on the skin lesions in diagnosis, the character of the wool should also be taken into consideration. In scab it has become dry and bleached, and has lost its natural lustre and softness. This refers more to advanced lesions: barely any change is perceptible in recent ones, and I may say none in the very recent lesion. I have noticed a pecularity in the wool of sheep which have been dipped and treated for scab, which is not noticeable in the wool of healthy sheep dipped in the usual way—the wool may not appear bleached; it is darker on account of the dip; it has a thready and teased appearance, does not appear to have grown in tufts, and is soapy to the feel.

There is a matter regarding the examination of flocks, which we know have been affected, and are said to be cured. We are asked to certify as to their health. If no trace of scab can be seen, it is usual to certify that they are "free from disease." On this point, however, I am not so dogmatic. I invariably state where no traces of the disease are evident that "I have failed to find any lesion of sheep scab." A small lesion might escape notice and recurrences take place.

Parasitology. It is of importance that we should know something about the causal parasite. In a paper of this kind, it is my intention to give only a brief outline of the Psoroptes communis ovis, with mention of its life cycle, on which so much depends when we attempt to deal with the eradication of the disease.

During its metamorphosis there are four stages, *viz.*, egg, larva, nymph, adult.

(1) The egg is creamy-white in colour, oval-oblong in form with slightly flattened ends; under favourable hatching conditions in contact with the sheep's skin it may hatch out in two or three days into the larval form.

(2) The larva has three pairs of legs, the third pair ending in two long bristles. Larvæ change into nymphæ in two days.

(3) The nymph has four pairs of legs, the fourth pair carries a bristle and a sucker. The nymphal stage lasts three to four days and develops into the adult, producing pubescent females and males.

(4) The adult: (*a*) The pubescent female differs from the nymph in that the fourth pair of legs carries two bristles and no sucker. The presence of a vulva and two copulatory tubercles. Copulation takes place soon after the appearance of pubescent females, and goes on as a rule for a period of 24 hours, when the pubescent female is converted into the ovigerous female. (*b*) The ovigerous female usually commences to lay eggs 24 hours after copulation. It differs from the pubescent female in that the fourth pair of legs carry suckers, and there is a sub-thoracic vulva.

(*c*) The male is smaller than the female and carries copulatory suckers, and abdominal lobes furnished with five bristles. The fourth pair of legs are very short, terminating in two short bristles, while the third pair of legs are very long and carry a sucker and long bristles.

The adult female acarus is about ·5 to ·7 mm. in length, in form it is partly ovoid. The males are smaller and rounder.

The psoropt is most likely to be confused with the symbiote, but can be definitely distinguished from the latter by the pincer shaped head and the long tri-jointed pedicles carrying the suckers.

Prof. Craig, a short time ago in a paper read before this Association, dealt very fully on the morphology and characteristics of the various acari and their differentiation when examined microscopically.

In the middle of last century several investigators were at work with regard to this parasite. Most writers mention Gerlach as an authority. Gerlach found that the parasite multiplied rapidly, that in ninety days one female was responsible for 1,500,000 parasites. He also found that the life cycle of the parasite, *i.e.*, from egg to ovigerous female was from fourteen to fifteen days. Others of the older observers placed the life cycle up to sixteen days. From the most recent research the life cycle would appear to be from nine to ten days.

Very exhaustive investigations regarding the life history of the parasite have been made by A. W. Shilstone, M.R.C.V.S., in South Africa. He has been very painstaking, and goes into detail with regard to what he has done. His work is worthy of great praise and his contribution to the literature on the subject is valuable. He puts the life cycle of the acarus as nine days *i.e.*, from the time of hatching of egg. He cites a case where one female acarus had laid ninety-three eggs, and also mentions that two females laid nearly a hundred eggs each. He also states that writers overlook the fact that the case of the female acarus quoted by Gerlach as laying twenty-four eggs was from the Sarcoptes scabiei, var. Hominis. One can readily understand how rapidly they multiply. I mention these points as they will be of assistance in studying the propagation of the disease.

Propagation and dissemination. From the foregoing it will be conceivable how the disease can be introduced into a healthy flock. If even one ovigerous female be placed on the skin of a healthy sheep, when we consider the number of eggs that can be laid, and from which parasites can be hatched in such numbers, we can readily understand that lesions of sheep scab will soon make their appearance, and one sheep will affect a healthy flock in a very short time. Sheep scab is essentially a contagious disease, and the contagion is immediate. An unclean animal must be introduced into a clean flock. It has not been shown where mediate contagion has taken place, although some suggest that animals may act as carriers—for instance, we often see crows and magpies on the backs of sheep. However, we have nothing conclusive on this point. Probably, in dry, hot weather, the disease is not so easily propagated

as in wet weather. We know that during the winter months scab seems more rampant than in summer. Shearing and dipping may influence this.

Sir Stewart Stockman in his investigations some years ago, found acari on healthy lambs, *i.e.*, the disease has not manifested itself, the acari lived on them but produced no lesions. Can we presume that the parasite will always remain quiescent, as it were, or will it later assume a pathogenic role, and set up the disease?

It has been stated and generally accepted that animals in poor condition contract the disease more readily. Shilston states that fat retards the parasite in producing scab, and mentions a case where the late Dr. Hutcheon tried to infect lambs which were in good condition, but with negative results. He attributes this to the amount of grease on the skin. Our experience here is that we often find scab in lambs in good condition. I have seen many cases where sheep were purchased, taken from poor land, and put on good fattening land, when in about two weeks the disease appeared. I examined these, and was perfectly satisfied that the lesions were those of very recent sheep scab. There was no previous history of scab having been on the land where the sheep came to. However, they may have been specially selected clean sheep taken from a scabby flock, or they may have come from a healthy flock and contracted contagion in the fairs where they were purchased. I merely mentioned this to show that as the sheep improved in condition on good land the disease, so to speak, spurted out. I had no doubt that the contagion existed in the sheep prior to coming on the fattening land. These cases have no analogy with the case of Dr. Hutcheon's fat lambs. Now, from the cases just mentioned of apparently healthy sheep, in which later the disease developed, being introduced into a healthy flock, there is no doubt that they too (the healthy flock) would also contract the disease. The mixing of sheep at fairs and markets is a source of contagion.

We find lesions of sheep scab in the tails of lambs, no lesions can be found elsewhere, and in-contact animals in the flock have been found to be healthy. Why should the tail be selected as a site? Is it due to its anatomical arrangement? It has been stated that parasites retain their vitality for a longer time on manure. Would this explain these lesions? Some suggest that these tail lesions would not disseminate the disease. With this I do not agree.

Some farms are said never to be free from scab, and it is also said that fresh sheep put on these farms would undoubtedly contract the disease. So far as I recollect, Stockman made experiments, with some success, by putting sheep in infected pens but only when the infected pens had been vacant for a period not longer than eight days. Shilston made investigations with regard to this by placing healthy sheep in infected kraals, but with negative results—excepting a case where he placed the healthy animals in contact with infected manure. In the experiments the intervals between the removal of infected sheep from kraals and the introduction of contact with clean sheep were from eight days to ninety days.

There is a popular idea here amongst farmers that where sheep scab has existed on a farm that the farm remains infected for a long time. Is it then a coincidence regarding farms in this country where scab had existed that they retain the infection? Possibly it is, because we know where owners have taken energetic measures to treat bad cases of scab on their farms they may not have another case again. In the case of these farms little or no disinfection had been done. Of course, very practical farmers believe that sheep, if the disease is to be got rid of, should not be put again on an infected farm for a period of three years.

Investigators have shown that acari can live apart from sheep for a considerable time, though they are not agreed as to the number of days, yet this is of sufficient importance to remember when we are considering the length of time it would be necessary to keep fresh sheep away from an infected farm or premises. From the observations of Stockman he puts the length of time eggs retain their vitality as eight days. Shilston also found the eggs did not hatch after eight or ten days. As acari live much longer, say, two to three weeks, it is, therefore, to these adults that we look for the propagation of the disease. If fresh sheep came in contact with wool, old crusts, rubbing posts, etc., on a farm after infected sheep had been removed, there is still a risk for a fairly considerable time of these sheep contracting the disease.

Another source of contagion is of interest. It has been said that parasites remain inside the ear. Henry (Alfort) states he found cachectic sheep with psoropts in their ears. Craig has found psoropts in the ears of sheep affected with the disease. We can see that where dipping is carried out the ears remain untouched by the dip, as a rule. In the case, therefore, of sheep harbouring acari in their ears, it is obvious how the disease may spread, notwithstanding dipping precautions.

The principal cause, in my opinion, in the dissemination of the disease is sales, markets and fairs—healthy sheep coming in contact with diseased. Many sheep grazing on mountains stray, and during the dipping season are lost. They miss the usual dipping. They may be affected with scab, and when they rejoin the original flock they may infect the others.

Failure of owners to report cases of scab on their farms is too common. They may treat the lesions on the sheep, but do not subject them to dipping—neither are the in-contacts dipped. They bring out apparently healthy sheep from the diseased flock to a fair or market: these develop the disease later, and the contagion spreads. In cases where prosecutions have taken place under the Sheep Scab Order the small fines imposed by magistrates do not act as incentives to report cases of scab.

Eradication and Prevention. In the treatment of affected animals segregation of diseased from the apparently healthy should be the first step. The apparently healthy sheep should be dipped. After an interval not exceeding ten days they should be again dipped. They should be examined during this interval, and any affected—any with lesions, should be placed with the isolated and already diseased sheep.

The affected animals should be treated thoroughly, all the crusts should be softened, and a dressing applied to the affected parts. Many remedies can be used—mercurial ointment, perchloride of mercury, tobacco juice, etc. It is not so much a matter of what is used, but how it is done. It should be done with a thoroughness. In a day or two after this local dressing has been applied the animals should be immersed in an approved dip. Parasites themselves are easily destroyed, but the ova retain their vitality nowithstanding dipping. Hence the obviousness of repeated dressings and dippings, allowing of course for proper intervals between dippings, which the most recent research on the subject shows to be a period of about ten days. Eggs will hatch after dipping, but Shilston states the lime and sulphur dip prevents this or destroys the larvae as they are hatched. He states this dip was largely employed in eradicating scab from from Australia.

It will, therefore, be seen where scab exists on a farm that repeated dressings and dippings will be required. Even where we are satisfied that a cure is effected, an extra dipping should be carried out for the entire flock ten days after the last dipping. In the Sheep Scab

(Ireland) Order of 1905 three dips are mentioned, and recipes given.

Energetic measures must in all cases be adopted if we hope for a cure. Owners show great laxity in treating the disease, the principal thing troubling them is the removal of restrictions.

In the prevention of the disease it will be necessary to remove and burn all "scabs," "crusts" and loose wool which had fallen off infected sheep. Notwithstanding the conclusions arrived at regarding infected farms, it would be well to have scratching posts, at least disinfected. Care should be exercised when introducing new sheep into a healthy flock. The new arrivals should be isolated for a time, and dipped twice within ten days before being put with sheep already on the farm. Even sheep when sent to a fair or market, and returned unsold, should be dealt with as new arrivals. In cases where, considering the season, dipping might be impracticable, they should be kept apart from the other sheep of the flock until the owner is satisfied there is no trace of disease among them. Sheep owners should have their flocks dipped regularly, even examined occasionally, lest a lesion might be developing, when the disease could be arrested.

The Authorities recognise the necessity of dipping for the prevention of the disease, and have made Sheep Dipping Orders accordingly. They have arranged for two dipping periods—summer and autumn. If the sheep dipping regulations were properly carried out, I have no doubt the number of outbreaks of sheep scab would become materially reduced. Unfortunately in some instances the attempt at dipping is poor, and is done in such a way it is of little or no benefit. Farmers are lackadaisical as a rule regarding the carrying out of the regulations: it is obvious that dipping is done in many cases as a mere formality to comply with the Order. The sheep in some cases are not immersed, and the mode of immersion in others is such that dipping has not the desired effect. Cases have been noticed where sheep have been smeared with a brush, giving them the appearance of having been dipped.

It is, therefore, obvious that the co-operation of sheep owners is essential, and unless this can be obtained either voluntarily or compulsorily, we cannot hope to stamp ont the disease. When owners show earnestness: when they awake to its seriousness and realise what their own efforts would mean, much may be achieved regarding the eradication of sheep scab.

Milk inspection in Edinburgh.

The Annual Report of the Public Health Department, by A. Maxwell Williamson, M.D., B.SC., is this year, in common with other publications, greatly reduced in bulk, and we may well doubt if the community is at all the loser by the alteration. The records are both necessary and desirable, but the publication of purely local returns in so expensive a form is often mere extravagance. The only portion of the Report which touches veterinary work at all is that concerning the milk supply, from which we take the following paragraphs.

"The provisions of the Sale of Food and Drugs Acts have, as usual, received active attention, and, as in former years, it has been found that by far the largest number of cases of adulteration have occurred in connection with the milk supply. Not only have such precautions been taken in safeguarding the quality of the milk so far as its actual chemical ingredients are concerned, but the usual procedure has been adopted in order to prevent milk which might be tuberculous in character from being used by the public. Samples of country milk have, on arrival, been taken at the Railway Stations and submitted to the Professor of Public Health at the Usher Institute, for Bacteriological examination by inoculation. It is a commentary upon the strictures which have from time to time been passed on the quality of the City Milk Supply to note that while 62 such samples were examined by this most searching of all methods, in no case was the tubercle bacillus found present.

When it is added that, so far as milk produced within the City is concerned, periodic visits at short intervals are carried out by the Veterinary Inspector, and any infected animal found in a byre is at once ordered to be removed, it may appear evident that both City-produced and Country-imported supplies of milk are under such constant supervision as should tend to allay fears which have been aroused in regard to danger to the milk supply during recent years."

Joint-ill in Lambs.

At the annual general meeting of the members of the Society of Border Leicester Sheep Breeders held at the Corn Exchange, Gorgie, Edinburgh, a discussion took place, being initiated by a letter from the Highland and Agricultural Society asking whether this Society approved of the extension of the inquiry to include calves and lambs as well as foals, and whether it would be prepared to participate in such an inquiry. It was stated that there was considerable loss from this cause in pure-bred lambs every year, and that in spite of the utmost precautions.

In the circumstances it was agreed to approve of the extension of the inquiry in the direction mentioned, and to become responsible in the meantime for a sum not exceeding £50 in aid of the extended investigation. The Council were given powers to somewhat extend this sum in the event of such being specially necessary.

Sheep Scab—"without warranty."

An action of importance to farmers has just been decided by Sheriff Sym, Perth. John Taylor, Hilltarvit Mains, Cupar-Fife, sued James Macfarlane, cattle dealer, Methen, for payment of £9 4s. 6d., being loss of dipping, etc., sustained by him in respect that on 1st September last pursuer purchased from defender 100 cross lambs affected with sheep scab, which was known to the defender and not disclosed by him. Sheriff Sym, in his judgment, says the sheep were sold without warranty, and there were no verbal representations that the defender believed them to be free from any defect or fault. The pursuer's case implied that the exposure for sale imported a representation that the sheep were free from all contagious diseases, but in a question of law as between an innocent buyer and innocent seller, the Sheriff is of opinion that the pursuer cannot maintain any warranty or representation against scab. His Lordship accordingly grants absolvitor in favour of defender, but, in view of the loss that pursuer has sustained, finds no expenses due to or by either party.

PECULIAR CASE OF FOREIGN BODY IN A HORSE.

Sir,—In *The Veterinary Record*, July 14, Capt. Olver wonders how the coin got under the skin of the shoulders We have in this country a disease affecting young horse. known as "Shoulder slip." In Nevada, one of the north-western States of America, this disease is known as a "Sweeny Shoulder." The farmers (owing to the great distance from a veterinary surgeon) treat this condition in the following manner. A small cut is made right through the skin, in the centre of the wasted part, and a 10 or 25 cent piece is put in underneath the skin; then one stitch is inserted to draw the wound together. The cent piece remains, and, as a result, you have a re-development of the muscle.

Now that America has come in with the Allies, I am sure Capt. Olver may come across some member of the American A.V.C., who will be better able to give him a fuller explanation upon this "Homœopathic" treatment.

H. McCONNELL, V.S.

The Mall, Armagh. July 20.

ARMY VETERINARY SERVICE

THE MILITARY CROSS.

War Office, July 18.

The King has been pleased to confer the Military Cross on the following officers and warrant officers in in recognition of their gallantry and devotion to duty in the field :—

* * * *

Temp. Capt. JAMES HAMILTON STEWART, A.V.C., attd. R.F.A.—During the evening the wagon lines were heavily shelled. He at once went to the assistance of a wounded man; having seen him taken away, he returned to the other wounded, and did what was necessary for the horses. All this was carried out under continuous shelling.

The following have been mentioned in the Despatch from Lieut.-General G. F. Milne, C.B., D.S.O., Commanding in Chief, British Salonika Force :—

* * * *

Lieut.-Col. E. W. Larnder; Maj. H. C. Dibben; Capt. (temp. Maj., Spec. Res.) J. Rae; Capt (temp. Maj.) R. W. Mellard; Temp. Capt. (temp. Maj.) D. O. Turnbull; Capt., R. H. Stalker, Spec. Res.; Capt. G. Lloyd, Spec. Res.; Capt. A. J. Beckett; Temp. Capt. S. L. Symonds; Temp. Capt. J. M. Brand; Temp. Capt. E. J. Burndred.

Staff. Sgt. (actg. Regtl. Sgt.-Maj.) J. F. Thurling, 85; Sgt. (actg. Regtl. Sgt. Maj.) F. C. Hall, 134; Sgt. (actg. Staff Sgt.) E. Hickson, 321; Shoe-smith (actg. Farr. Staff Sgt. S. Mason, SE/7196; Pte. (actg. Sgt.) J. Rouse, SE/4853; Pte. (actg. L.-Sgt.) W. T. Young, SE/5100; Pte. (actg. Sgt.) A. H. Baverstock, SE/443; Pte. (actg. Sgt.) J. H. Filmer, SE/1427; Pte. (actg. Sgt.) W. Sullivan, SE/1493; Pte. W. W. Williams, SE/4420; Pte. F. Chandler, SE/4539.

War Office, July 23.

The following have been recommended for distinguished and gallant services and devotion to duty in the dispatch from the Field-Marshal Commanding-in-Chief, British Armies in France, dated April 9, 1917 :—

* * * *

Major (temp. Colonel) H. M. Lenox-Conyngham, D.S.O., F.R.C.V.S.

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, July 21.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lts. to be temp. Capts. :—J. A. Edmunds (May 28); A. S. Black, E. R. Corbett, A. T. Andrew, C. C. Corbett, S. F. Spurr (July 6)

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

July 20.

Lieut. to be Capt. :—J. Mullaney (July 11).

July 21.

Lieut. to be Capt. :—W. M. Jackson (July 13).

The following casualties are reported :—

WOUNDED—Capt. J. M. Richardson, A.V.C.

DIED—Pte. H. W. Robinson, 23736 (Walkley).

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. H. Barrow, M.R.C.V.S., Ireby, Carlisle
Hon. Sec: Mr. R. Craig Robinson, M.R.C.V.S., Carlisle
Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.

Pres.
Hon. Sec. Mr. John S. Keane, 11 Falkland Mansions, Kelvinside

ROYAL VETERINARY COLLEGE V.M.A.

Pres. & Hon. Sec: Mr. B. Gorton, M.R.C.V.S., M.P.S.
Hon. Treas: Prof. E. F. Shave, F.R.C.V.S.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH

Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock
Hon, Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S., Moore Street, Abattoir, Glasgow

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS

Pres: Mr. J. Abson, F.R.C.V.S., Sheffield
Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

MUNSTER VETERINARY INSPECTORS' ASSOCIATION

Pres: Mr. D. M. Barry, M.R.C.V.S., Mallow
Hon. Sec: Mr. J. F. Mahony, M.R.C.V.S., Caroline St., Cork

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester
Hon. Sec & Treas: Mr. G. H. Locke, M.R.C.V.S. Grosvenor Street, Oxford-st., Manchester

VICTORIA VETERINARY BENEVOLENT FUND.

Pres. Mr. S. H. Slocock, F.R.C.V.S., Montague Rd, Hounslow
Hon. Secs. Mr. P. J. Kelland, M.R.C.V.S.
Mr. Fred Bullock.
10 Red Lion Square, London, W.C. 1.

COLONIAL SOCIETIES.

VETERINARY ASSOCIATION OF NEW SOUTH WALES.

Pres: Mr. S. T. D. Symons, M.R.C.V.S., Chief Inspr. of Stock
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Hon. Sec. & Treas: Mr. Max. Henry, M.R.C.V.S., B.V.SC. (SYD). 56 Bridge Street, Sydney

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